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ABSTRACT

Although research in the area of communication apprehension (CA) has been extensive, little of it has attempted to identify the regularity and intensity of the nonverbal stress behaviors associated with CA. Additionally, most CA research has concentrated on the problem in North American settings. To extend the boundaries of CA research, a study investigated CA interculturally, focusing on the identification, regularity, and intensity of nonverbal stress behaviors in speaking situations through the analysis of the self-perceptions of Japanese and North American subjects. These subjects, 284 North American and 256 Japanese college students ranging in age from 18 to 60, completed an instrument that asked them to assess their nonverbal behaviors in tense speaking situations. The results indicated more than 100 different forms of nonverbal behaviors ranging from rapid heart rate to trembling hands. Data concerning the frequency and intensity of the various forms of nonverbal behaviors were highly variable; however, the most frequently cited behaviors were similar for the two cultural groups, indicating the potential of a cross-cultural link in speaker self-perception of nonverbal behaviors. (Copies of the survey instruments and tables of data are appended.) (FL)

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A Nonverbal Approach to Communication: A Cross - Cultural Study Of Stress Behaviors

By

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Paper presented at the conference on Communication Apprehension, SCA Convention, November, 1982.

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At some time in our lives most of us have suffered or have experienced varying degrees of oral communication apprehension (McCroskey, 1970), anxiety, stage fright (Clevenger, 1968), reticence (Phillips, 1965), stress and the like as we attempt to communicate with others in public, interpersonal or small group speaking situations. It also seems some people are more prone to anxiety in general (pan anxiety), while others only experience anxiety at a specific point in the communication situation. The term, frequently used in this paper, communication apprehension, was coined by James McCroskey in 1970 and "refers to an anxiety syndrome associated with either real or anticipated communication with another person or persons," (McCroskey, 1976) in any type of communication situation. Reticence, another term used to characterize speech anxiety, has been defined by Phillips, author of the book, Help for Shy People, "as a person for whom anxiety about participation in oral communication outweighs his (her) projection of gain from the situation" (Phillips, 1968, p. 40). Furthermore, in his 1980 Communication Education article, he defines reticence as the primary problem of inadequate communication skills. For the purposes of this paper, no distinctions are made between the terms reticence and communication apprehension in classifying a person's fear of speaking. Communication apprehension and reticence have been combined into one term, communication apprehension (CA), because we found it is impossible to differentiate between the two terms interculturally at this time.

Over the years, interest in this area appears to have been in increasing. Glaser, in a recent 1981 article, summarized the current status of CA research and listed a bibliography of 106 articles and books. Of these, the great majority have been published in the last few years. This extensive research by communication scholars and others reveals a number of viewpoints regarding the causes and consequences of CA and suggest several appropriate treatments for reducing it. Most people would have little trouble agreeing with the understatement that "some people are afraid to communicate with others" (Richard, 1982). An article providing a clear summary of recent findings in CA research concludes CA often results in a negative impact on the apprehensive person at school, on the job, and in social relationships (Ishii, Klopf & Cambra, 1979). When people find they function poorly in speaking situations because of tension and anxiety, a vicious circle of ever-increasing tension and poor performance is produced. It is not surprising, then, that more and more people today are looking for ways to alleviate this type of tension. No matter how intelligent or capable a person might be, if he/she is plagued by severe anxiety, such as CA, she/he will never be able to fully contribute to society unless the problem is overcome.

Based on our review of the research, we agree with McCroskey's 1977 statement that "CA is the most pervasive problem in communication facing us today." Although research in this area has been extensive, little has been done to identify the regularity and intensity of the associated nonverbal stress behaviors. According to Ishii, Klopf and Cambra (1979), most studies (with some important exceptions) have only looked at the problem of CA through the examination and discussion of North American behavior. It is therefore the purpose of this paper to look further into the problem of CA interculturally, focusing on the identification, regularity and intensity of nonverbal stress behaviors in speaking situations through the analysis of self perceptions of these behaviors held by the subjects in this study.

Several other points are considered in this paper: What are the Japanese attitudes toward oral communication? Do tense speaking situations result in differences in the self perceptions of nonverbal stress behaviors cross-culturally between the Japanese and Americans? How often do these behaviors occur within the same group? How frequently are these behaviors experienced by the people reporting them? Are there any similarities/differences between the Japanese sample and the American sample? Another pertinent factor to consider is the relationship of previous research in the area of behavioral response to stress and CA.

Some studies and general observations imply the Japanese have certain attitudes and ideas about communication apprehension: the Japanese tend to avoid speaking out; they rely heavily on nonverbal communication to communicate their feelings and they consider themselves to be highly apprehensive in oral communication. "The Japanese while open, do not feel they are very orally capable, being shy, apprehensive, and reluctant to verbalize" (Ishii, Klopf & Cambra, 1981, p. 11). In Japan, the people seem to show a general mistrust and dislike of people skilled in oral communication. This is evident by their expression such as "talk is cheap," and "words are trash" (Stewart, 1982; Richard, 1982; Naotsuka, et. al., 1981). Other common phrases include: "speech is silver, silence is golden," "talkers are not good doers," "even a pheasant will not be shot if it keeps quiet" (Takashima, 1981). These expressions are a small reflection of the tradition relating to mistrust of words in the Japanese tradition. However, this mistrust of oral communication does not seem to begin in childhood. Children in Japan are allowed to vocalize freely and loudly until well into their elementary school years. Then, at some point, the Japanese assume "control" of themselves and present themselves to look far more quiet than their American counterparts, at least in the formal classroom. In Japan's higher educational system, speech communication is not part of the curriculum at any level in the system, with the exception of a minimum of courses and debating societies at a few universities. In comparison, the American situation is quite the opposite, beginning with the elementary school years through college. Speaking is encouraged on the elementary level. Students are motivated to speak

out and express their ideas openly. The same holds true at the secondary education level, where speech communication classes are available in several junior and senior high schools in America. This same pattern continues in higher education classes. Colleges and universities offer and promote speaking, oral communication, both verbally and nonverbally in a variety of classroom situations. Yet, in the same instances, the Americans, as the Japanese, feel anxious and stressful in speaking situations. Hence, while there are cultural differences in communicating, it appears there may be a cross-cultural link between the countries with regard to CA and accompanying nonverbal stress behaviors.

When a person feels stress in a speaking situation, whether it be in Japan or America, the reactions are somewhat similar, both physically and psychologically. The terms used to describe these nonverbal stress behaviors may differ in each culture but the initial feelings and perceptions of these behavioral reactions appear to be similar in nature. According to Clevenger (1968) in the article entitled "A Factor Analysis of the Visible Symptoms of Stage Fright," the body responds in three major ways. The first way deals with "fidgetiness" or gross skeletal muscle movements such as shuffling feet, swaying body and swinging arms. The second category "inhibition" includes actions taken to control or repress tensions (i.e. the deadpan expression and trembling). Third, is the category known as "automia" which includes indicators of autonomic imbalance such as moistening lips, blushing, breathing heavily and frequent swallowing. The physiological factors, according to Dudley Cahn, include bodily changes, visceral activity or feelings, excitation, arousal or a discharge of the sympathetic nervous system. For the speech anxious individual the major subjective experiences are palpitations and tremor but sometimes these experiences are accompanied by feelings of flushing and the feeling of warmth, sweaty hands and red face are caused by extra blood and oxygen in the large muscles (Cahn, 1981). Other common stress related complaints cited by the Australian physician, C. Weekes include: fatigue, churning stomach, racing heart, pins and needles in the hands and feet (especially hands), a choking feeling in the throat, inability to take a deep breath, ants crawling under the skin, giddiness, nausea, occasional vomiting, diarrhea, and the frequent desire to urinate (Weekes, 1969). These are just a few ofthe stress reactions cited by the above researchers. However, as this study suggests, the list is much more extensive.

Method

The people in Japan included in the study ranged in age between 18 and 60 (table 1) and were students in various college English

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Insert Table 1 about here

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classes at either Akita Unversity, Akita Economics Unversity and several adult classes. Subjects in the American survey, ranging in age between 18 and 60, (table 2), were also college students

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Insert Table 2 about here

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from various speech communication classes at St. Cloud State University and the University of Minnesota in Minneapolis (including several extension classes). Tables 3 and 4 illustrate both versions of the form used in the study. Two different but

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Insert Tables 3 and 4 about here

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similar questionnaires had to be administered because of the language barriers.

The American survey instrument was a brief questionnaire which asked for the respondent's age, year in school and sex (an optional question on the Japanese form). They were also requested to list their nonverbal behaviors experienced during public speaking situations. The meaning of the phrase "public speaking situation" was not defined for the subjects nor were any examples of speaking situations listed. The questionnaires were given to the subjects' teachers and the distribution procedures were left to the discretion of the individual instructors at the various colleges. The survey did include an illustration of a behavioral example.

The Japanese survey form was more descriptive. The subjects were asked to record their nonverbal behaviors in any type of speaking situation. Nonverbal behaviors were defined as "physical, emotional, mental responses/feelings, reactions in communication, including tone of voice, gestures, posture, etc." The subjects were also asked to indicate how often these behaviors occurred in relation to the tense speaking situation according to the same scale used by the American subjects. As in the American survey, a behavioral example was illustrated.

In Japan, instructions and forms were provided in both English and Japanese and subjects could respond in Japanese, English, or a combination of the two, as a means of facilitating their self-report responses. Subjects were provided with sufficient time to reflect on their experiences and put down their thoughts. Data were then

translated into English and compiled. A similar method was utilized in the American survey, in that they too were provided with sufficient time in class to reflect on their experiences and indicate their thoughts and feelings. Data were then compiled in both instances revealing the types of behaviors experienced, the number of people in the sample experiencing them and the frequency in which the behaviors were experienced using the 1-4 scale.

Insert Tables 5 and 6 about here

Results

Tables 5 and 6 depict results of the self-report identification of a repertoire of over 130 different forms of nonverbal behavior experienced by at least some of the students in the Japanese and American surveys. The behaviors are separated according to country. In addition, the tables indicate the percentages of the total Ns for each nonverbal behavior listed and the average frequency rating by the subjects using a four point scale. The lower rating reflects a higher occurrence of the nonverbal behavior (1-experienced very often; 4-experienced very seldom).

Since over 80 behaviors were recognized and reported by the Japanese and 50 behaviors by the Americans, it became evident both groups were well aware of the existence of nonverbal actions and reactions to speaking situations. The study also demonstrates tense speaking situations do result in the self-perception of nonverbal stress behaviors. Although fewer behaviors were cited by the Americans, 12 of the 284 forms were returned with no behaviors listed. On the other hand, in Japan, none ofthe forms were returned unanswered. Both cultures identified a wide variety of interesting behaviors ranging from psychological to physiological, from internal to external, and some which appear to be an internal-external blend. The Japanese tended to be more consistent in reporting their feelings in regard to CA (i.e. rapid heart rate - 78% of the total N). However, the Japanese rated their behaviors on the intensity-frequency scale as occurring less frequently (i.e. rapid heart rate - 2.08). The Americans tended to rate their behavior frequencies as much higher in frequency (i.e. trembling hands - 1.84). As evidenced by the mean scores for the most frequently reported top six behaviors, the Japanese mean score was 2.55 as compared to the North American mean score of 2.08. These top six behaviors also varied in each culture. Table 7 illustrates the cross-cultural comparisons of the six top behaviors from the two countries. Rapid heart rate, red

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Insert Table 7 about here

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face, wavering voice, sweaty hands, trembling knees/feet/legs and mind going blank had the highest percentages of total responses with the Japanese group, although they were not the highest average frequency in occurrence. The top six behaviors the Americans cited as beingthe most troublesome included: trembling hands, wavering voice, trembling body/knees/legs, nervous gestures, no eye contact and moving back and forth.

The American subjects indicated trembling hands (121 respondents) as having the highest average frequency occurrence (1.84) as opposed to the Japanese top behavior, rapid heart beat, with an average frequency occurrence of 2.08. Of the 21 nonverbal behaviors experienced by 5% or more of the Japanese subjects, general body trembling (1.80), rapid speech rate (1.95), and soft voice (1.93) showed the highest rate of frequency. In comparison, trembling hands (1.84), rapid heart rate (1.47) and blushing red face (1.80) showed the highest rate of frequency by the American subjects. It is also interesting to note that in the Japanese group the bottom six behaviors (reported by fewerrpeople) were indicated as being far more frequently experienced when compared to the top six behaviors. This was not the case in the American group. Their final six behaviors were not experienced nearly as frequently as for the first six.

Furthermore, a majority of the behaviors listed by both groups (Japanese and Americans) are internally oriented and emotionally based behaviors. This is especially true of the top 6 behaviors listed in each group in table 7, but it is even more prevalent in the Japanese sample. Their top behaviors, rapid heart rate, and red face are clearly internal; in comparison, for the Americans, trembling hands, nervous gestures, moving back and forth and trembling body are usually considered "external" due to their visibility on the part of the observer. Even though a red face is quite external at times, at the onset of the talk the speaker may begin to feel warm. Yet, as the speaking situation progresses the warm flushed feeling may turn into a "beet" red face (an internal orientation). Other behaviors such as the feeling of suffocation, urge to vanish, becoming someone else, hot flashes, and the like obviously indicate the seriousness of the CA experience and therefore note a certain tone of despiration in the face of the CA person in Japan. The seriousness of this problem also would seem to hold true with the American subjects in that they indicated such behaviors as "vomiting," "a million scared thoughts," "the urge to run," and "feeling threatened."

Conclusions

It is clear from this study that communication apprehension affects the self perceptions of nonverbal behaviors in stressful speaking situations in both Japanese and American college students. Even though the Japanese were cited by researchers as being overly shy, not speaking out and relying heavily on nonverbal communication, the Americans, who are considered more open and communicative, experienced the same basic reactions. It is obvious, then, from the numerous stress related behaviors listed by both the Japanese and American sample that people do perceive themselves as reacting nonverbally to stressful speaking encounters. Although many behaviors no doubt went unreported, the reported behaviors did reveal a great variety of self-perceived reactions. There were some experiences that were consistent cross-culturally and others that were culture specific. While the terms and descriptions used by both cultural groups might have been affected by the culture itself, the interpretations seemed to be somewhat similar in both groups. The subjects recorded the behaviors as all being stressful to some degree or at least causing a problem at one time or another. Similarily, the frequency of these behaviors perceived by the two cultures were somewhat related. This was evidenced by the similarities between the top six behaviors listed by the Japanese and American subjects.

The Americans related their behavior frequencies as much higher in intensity and frequency than the Japanese who were more consistent in reporting their feelings in regard to CA. This may be related to the differences in their perceptions of previous speaking experiences. It is possible the Americans, because of their exposure to speech communication classes, have delivered more speeches or have been involved in more advanced speaking situations. Therefore, these previous experiences have enhanced the American subjects' awareness of their nonverbal behaviors, as well as their intensity, under more difficult speaking situations. This lack of exposure or minimum speaking experience on the part of the Japanese may be a determining factor in their low intensity rating and their higher consistency in reporting their feelings with regard to CA. They appear to experience more "internal" behaviors such as rapid heartbeat and red face which are more difficult to control or hide and may exhibit themselves in a wider variety of speaking situations.

The Japanese also reported more behaviors than the Americans. One possible explanation for this difference is that American students surveyed were selected from speech communication classes where CA terminology and definitions are widely used. As previously stated, the Japanese had less exposure to communication classes, resulting in a lack of unified CA descriptions.

Certainly more investigation is needed in this area. Since the study only relied on self-reports of nonverbal stress reactions, observable behavior could be another factor in assessing this type of behavior. Also, the people sampled were generally very young

(i.e. 192 of 256 Japanese students were between 18 and 20 years old; 155 of the 284 Americans were in this same age group) and their lack of public speaking experience could make them more prone to communication apprehension when compared to the experiences of the older group of students. No attempt was made to examine age or sex factors in this study. The Japanese participants were also members of English classes which could have been an influence on their behavior. It may be valuable in the future to continue such cross-cultural research on CA behaviors using other means and methods, including control groups if possible. We must continue to concern ourselves with communication apprehension and strive to perfect useful means of CA control, thereby helping people become more effective oral communicators.

Table 1

Japanese Subjects (N=256)

	Total	Ages 18-20	21-25	26-30	31-40	46-60
Female	105	87	11	2	4	1
Male	140	105	25	3	5	2
No age or sex designated	11					
Totals:	256	192	36	5	9	3

Table 2

American Subjects (N=284)

	Ages					
	Total	18-20	21-25	26-30	31-40	46-60
Female	169	103	39	11	11	4
Male	114	52	46	11	5	0
No age or sex designated	1					
Total:	284	155	85	22	16	4

Table 3

Nonverbal Questionnaire
Japan

Would you please take several minutes of your time to respond as indicated? Thanks.

1. Nonverbal behavior: Physical, emotional, mental responses/feelings, reactions in communication, including tone of voice, gestures, posture, etc.

2. Please think about tense speaking situations. Any type of experience or situation which relates to speaking will be all right.

3. Next, list the nonverbal behaviors you were aware of in these tense speaking situations. If terms for the behaviors do not come to mind please briefly describe the behavior.

4. Last, indicate how often these nonverbal behaviors occur for you in relation to those tense speaking situations, using the following scale:

   1 - Experienced very often
   2 - Moderately experienced
   3 - Occasionally experienced
   4 - Experienced very seldom

5. Example:

Nonverbal Behavior	Rate of Frequency
Rapid speaking rate	2
Sweating	3

6. Optional: Male___Female___ Age18-20___ 21-25___ 26-30___
   31-45___ 46-60___

LIST:

Nonverbal Behavior	Rate of Frequency

Table 4

Nonverbal Questionnaire
America

Age_____ Year in school _____ Male____Female _____

When you are involved in a public speaking situation what nonverbal behaviors do you experience? If you experience none, please indicate none on the sheet.

Below, list the behaviors you have experienced and the frequency you experience them.

Use the following scale:

1 - Most often experienced
2 - Moderately experienced
3 - Occasionally experienced
4 - only experienced once or twice

LIST OF BEHAVIORS	FREQUENCY SCALE OF BEHAVIORS
Example:	
Hands shaking	2

Table 5

Japanese Behaviors

Name of Behavior	Ns responding (N=256)	% Total N	Frequency Average (1-4 Scale)
Rapid heartbeat	199	78	2.08
Red Face	181	71	2.31
Wavering voice	133	52	2.76
Trembling knees/legs feet	107	42	2.88
Cold, sweaty hands	101	40	2.6
Mind goes blank	90	36	2.66
Dry mouth	44	17	2.96
Look down, up, away	32	13	2.18
Soft voice	31	12	1.93
Thirst urge	25	10	3.04
Tongue-tied (silent)	25	10	2.56
Rapid speech rate	23	9	1.95
Pacing floor	22	9	3.2
Touching face, hair, nose, glasses	22	9	2.19
Unsual toilet urge	21	8	2.55
General body trembling	20	8	1.80
Lost or confused	17	7	2.49
General cold sweat	16	6	2.43
Upset stomach	16	6	2.69
Trembling hands	13	5	2.65
Wandering/diverted mind	12	5	2.5
Stutter	11	4	2.29
Forced smile	11	4	2.07
Rapid eye movement	10	4	2.8
Feel restless	9	4	2.35
Bodily chilling	9	4	1.76
Defiant pose	8	3	1.98
Vocalized pause	7	3	1.81
Tight face	7	3	1.90
Feeling of suffocation	7	3	1.84
Urge to smoke	7	3	2.36
Hot flashes	7	3	1.87
Pitch change in voice	7	3	2.43

Other nonverbal stress behaviors perceived by 2% or less of the study sample.

Pale face	very slow speech	facial twitch	nod to self
Buzzing ears	excessive gesture	cold hands	sighing
Biting lip	conscious eye contact	sweaty face	red ears
Folded arms in front	hit self on head	feel faint	feel sleepy
Fondling objects	shake head/shoulders	limp legs	languid body
Cracking fingers	rigid body set	feel lonely	shift weight
Become someone else	stiff shoulders/neck	nosetruns	hands in pockets
Closing eyes	uncontrolled giggle	gooseflesh	dry cough
hyperventilation	broken speech	hide face	hot face
moving neck	yawning	staring	urge to vanish
itchy hands	blood rush to head	blurred vision	lick lips
hand over mouth	general discomfort	numb limbs	stage fright
dry cough	walk funny	feel ashamed	look around perplexed

Table 6

American Behaviors

Name of Behavior	Ns responding (N=284)	% Total N	Frequency Average (1-4 Scale)
Trembling hands	121	43	1.84
Wavering voice	87	31	2.14
Trembling body/knees/legs	75	26	2.34
Nervous gestures: wave hands, play with objects bite fingernails	73	25	2.12
Moving back/forth	73	25	2.12
No eye contact	72	25	2.01
Rapid heart beat	69	24	1.47
Blushing/red face	62	22	1.80
Forgetting	48	17	2.37
Sweaty palms/hands	47	17	1.78
Stuttering	38	13	2.21
Butterflies in stomach	37	13	1.56
Rapid speech rate	30	10	1.57
Involuntary smiling, laughter, blinking	29	10	1.68
Dry mouth/throat	28	10	2.28
Breathless	16	5	2.12
Dizzyness	10	3	2.0
Perspiring	7	2	1.71
Stiff body	6	1	2.67
Twitching mouth	5	1	2.40
Panic	4	1	2.25

Other listed behaviors:

frequent nodding	trembling eyes	urge to run
gesticulation	red neck	lack of coordination
rubbing eyes	stand on one leg	a million scared thoughts
cough/sneezing	lose of appetite	soft voice
weak arms	slouching	joke around
vomiting	swallow alot	twitching mouth
lower voice	runny nose	difficulty swallowing
general fatigue	loose place	drop class
voice stops	claw fingers into podium	
stapling hands to podium	bite cheek	
feel threatened		

Table 7

Top Six
Cross-cultural Behaviors

Behaviors	Japanese Frequency Ranking	(%)	American Frequency Ranking	(%)
Rapid Heartbeat	1	(78)	7	(24)
Red Face	2	(71)	8	(22)
Wavering Voice	3	(52)	2	(31)
Trembling knees/legs/feet	4	(42)	3	(26)
Cold, sweaty hands	5	(40)	1	(43)
Mind goes blank	6	(36)	9	(17)

Behaviors	American Frequency Ranking	(%)	Japanese Frequency Ranking	(%)
Trembling Hands	1	(43)	20	(5)
Wavering Voice	2	(31)	3	(52)
Trembling body/knees/legs	3	(26)	4	(42)
Nervous gestures	4	(25)	14	(9)
No eye contact	5	(25)	8	(13)
Moving back/forth	6	(25)	13	(9)

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